The Night Out Task (NOT) was created to test everyday functional abilities in individuals by mimicking complex, open-ended situations people may experience in everyday life in the clinic. Efficient and accurate assessment of an older adult’s functional ability is necessary for evaluating and addressing safety concerns, informing clinical diagnoses and initiating appropriate intervention.

This study explores how crystallized and fluid intellectual abilities affect success on the NOT variables in a sample of older adults. We hypothesized that fluid intelligence will be a stronger predictor than crystallized intelligence of NOT performance due to the novelty of the task.

### Methods

**Participants**
- 47 older adults between the ages of 50 and 83 (\(M\) age = 63.72, \(SD = 8.22\)) who completed the NOT in a lab setting.

**Procedure**
- Individuals were tasked with preparing for a night out, which required completing eight subtasks.
- Participants were provided a detailed written list of the subtasks that needed to be completed for the night out (see Table 1).
- Participants were instructed to multi-task and interweave the tasks so that the tasks could be completed efficiently.
- The recently completed digital NOT app was used to score their behavior.

**NOT Scores**
- **Total Time** (in seconds): Total time to complete NOT
- **Total Errors**: Sum of all errors made on the NOT
- **Accuracy Score**: Each subtask receives a completion score (see Table 2), which are then summed. Prototype app shows a list of potential situations (errors) that would result in each of the eight subtasks being coded as inefficient, incomplete or inaccurate (see Figure 5).
- **Sequencing Score**: Summed number of six possible efficient sequences.

### Results

Regression analyses were completed to determine whether crystallized and fluid intelligence predicted NOT task performances. As seen in Table 3, a significant regression equation was found for total errors, with crystallized intelligence emerging as a significant predictor (\(p < .05\)). A significant regression equation was also found for total time, with fluid intelligence emerging as a significant predictor (\(p < .005\)). The regression model did not yield significant predictors for the sequencing or accuracy scores.

### Table 3. Summary of Regression Analysis of NOT variables

<table>
<thead>
<tr>
<th></th>
<th>NOT Total Time</th>
<th>NOT Total Errors</th>
<th>NOT Accuracy Score</th>
<th>NOT Sequencing Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystallized Intelligence</td>
<td>-.113</td>
<td>-.315*</td>
<td>-.257</td>
<td>.030</td>
</tr>
<tr>
<td>Fluid Intelligence</td>
<td>-.419**</td>
<td>-.264</td>
<td>-.185</td>
<td>.031</td>
</tr>
<tr>
<td>R²</td>
<td>.195</td>
<td>.182</td>
<td>.105</td>
<td>.002</td>
</tr>
<tr>
<td>F for R²</td>
<td>5.699**</td>
<td>4.663*</td>
<td>2.533</td>
<td>.042</td>
</tr>
</tbody>
</table>

Note: Standardized Beta Coefficients reported for predictors.
* Indicates \(p < .05\) and ** Indicates \(p < .01\)

### Conclusions & Future Implications

In a sample of healthy older adults, crystallized intelligence was a significant predictor of NOT total errors and fluid intelligence of NOT total time.

The findings may suggest that knowledge gained through experience may be important for completing the task components without making errors.

Concomitantly, fluid intelligence, which declines with age and is important for novel problem-solving, may be important for quick and efficient task execution.

These suppositions will require further exploration.

This project may have been limited by the small sample size of participants and the homogeneity of intelligence scores of the participants.

Moving forward, we would like to validate the NOT as a clinic-based measure of everyday functioning.

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